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HEALTH

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DRINKING WATER

Of the various uses to which water is put, its use for drinking purposes is the most important. Like air and food, water is essential for our very existence. But every kind of water available on the surface of the earth is not fit for the purpose. Drink water you must, but what kind of water? Every sample of water is not fit for drinking. In fact, very few samples of water are fit for the said purpose. There are various types of water and the water most suitable for drinking should be clear, odourless and moderately hard, and it should be pure bacteriologically. The rain water is very soft and the underground water is very hard. The surface water is moderately hard and therefore more suitable for the purpose of drinking: but the surface water has the greatest chance of pollution. The very soft water dissolves metal and therefore, if stored in metal containers, may cause disease by metal poisoning. It is also not pleasing to taste. The desirable taste of the water is due to the gases and different kinds of salts, in moderate quantity dissolved in it; and though water is said to have no taste, water of different places has got different peculiar tastes and this is due to the different salts dissolved in it. The very hard water upsets digestion, may cause gastro-intestinal disturbance. It is also unfit for the purpose of cooking. In moderate hard water, the quantity of salts dissolved is small, and therefore it does not cause any bad effect; whereas this small quantity of salts imparts to the water a pleasing taste and makes the water suitable for drinking. Thus we see that there is some defect in every kind of natural water and we should not drink any water until it is rendered clear, odourless, moderately hard and bacteriologically pure. Now let us discuss the various types of water and how it may be made fit for the purpose of drinking.

Rain Water.—Water from the surface of the earth and mostly from sea is evaporated which becomes condensed in the upper region of the atmosphere. It is, therefore, pure in all respects. But dust and gases in

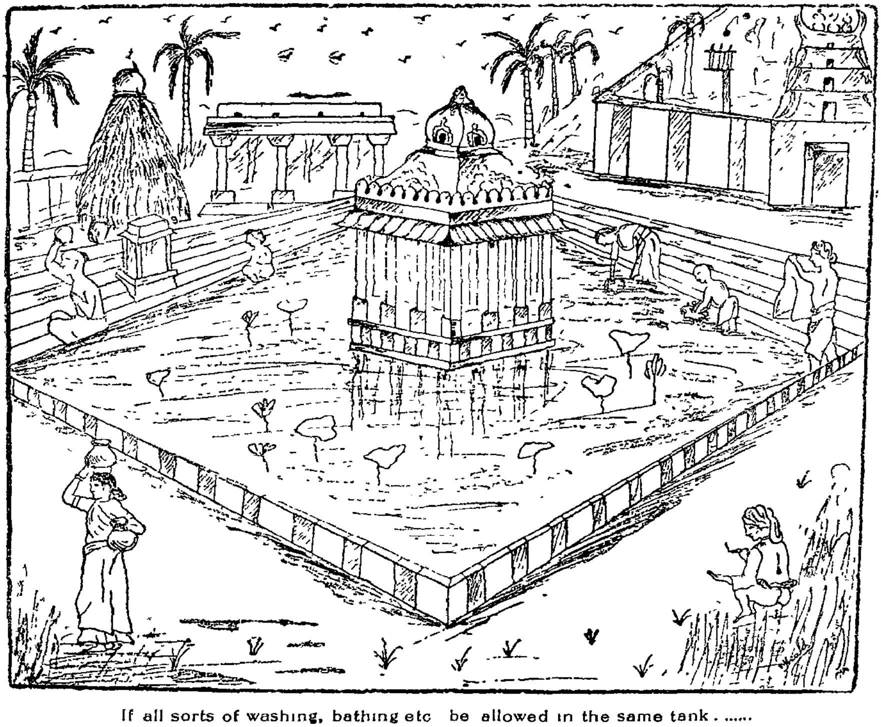
the air pollute it; but if there be a heavy shower, this pollution is negligible. Thus rain water collected properly before it comes in contact with the surface of the earth, may be taken as pure water. For this collection of pure water one should be careful to discard the first portion of the rains which carries the grossest portions of the atmospheric impurities and to store it in a masonry cemented reservoir placed a little above the surface of the ground.

River Water.—In towns of this country the supply of drinking water is mostly obtained from a river and in many villages also the river water forms the main source of supply of water. Now in towns they have some kind of arrangement for the filtration of the water. The water obtained from a river or stream undergoes filtration and is distributed to the people of the town with the purity of the water ensured. The difficulty arises where there is no such plant of filtration, and the river water is to be used for the purpose of drinking. The water of river becomes more and more polluted, as the river courses down and down, but nature plays also an important part to keep the water of a river purified. The oxygen of the air, the rays of the sun, the living animals in the water, the dilution by constant pouring out from the source, are the important factors which purify the water of a river constantly, but the river being the natural drainage of the countries through which it flows, though nature plays such an important part in its purification, is suspected to contain some sort of impurities; for which proper action should be taken before it is used for the purpose of drinking. Besides filtration on a scale, the water may be made pure in the following ways. If there is a sandy bank, the percolated water may be obtained by digging a well in the bank; otherwise some process of sedimentation may be required to free the water from suspended mud, if the water be very turbid. If some arrangement of storage is possible, it should be done in covered reservoirs. The clear water, if boiled, is rendered safe for drinking.

Otherwise some chemicals should be used before it is used for drinking. Bleaching powder in the proportion of 1 part of Chlorine per million parts of water, or roughly 60 grains of bleaching powder in 200 gallons of water, makes the water fit for drinking. Permanganate of Potash, 5 parts per million, or 76 grains in 200 gallons of water, also makes the water safe. Domestic filters are practically useless. Other chemicals, Ozone, ultraviolet rays, etc., are most important theoretically. Catadyn process may be helpful.

Tank.—In villages, especially in Bengal, the tank water is often used for the purpose of drinking. But if all sorts of washing, bathing, etc., be allowed in the same tank, and if water from the surrounding surfaces and nālās be allowed to flow into the tank, and if the tank is not kept cleaned, it is hopeless to get pure water from it. Before the inauguration of the sinking of tube wells, the tank water was the chief source of supply of drinking water in villages; and people were cautious not to pollute the water of the tank from which they collected drinking water, and the small pollution was kept in abeyance by storage, by oxygen, sunlight, and by lower forms of vegetable life and small fish; but circumstances changed, and nowadays, very few tanks are found which can supply good drinking water, and resort to tube wells has to be taken. Water from a reserved tank can be used for the purpose of drinking, otherwise the clean water from a tank can be used if it be boiled or treated with Chlorine or Potash Permanganate. Treatment with Chlorine is the most practicable and easy process. The odour of Chlorine is often objected to, but if apparently pure clean

water be treated with the minimum required quantity, and if it is allowed to be kept for a day after treatment, the objection becomes negligible. Instead of bleaching powder, the solution of Chlorine, which can be purchased from a druggist shop, may be also used with convenience. The use of it for the purification of water is written on the label of the phial. If the minimum quantity of bleaching powder or Chlorine is added to the water and if it be not in excess, bleaching powder is changed into harmless calcium carbonate and calcium chloride. If one be very particular about the odour of Chlorination, the portion of Chlorine which still remains in the water in excess, that is without being changed into the harmless salts, can be removed by addition of Sodium Thiosulphate according to the requirements of the treated water. Potash Permanganate is also reported to remove the taste of Chlorine if added to the water, to make it just pink in colour.

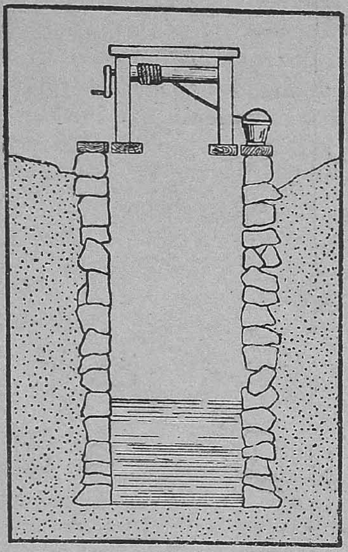


If all sorts of washing, bathing etc be allowed in the same tank ...... it is hopeless to get pure water from it.

Wells.—It is better not to drink the water from a shallow well, as fæcal bacilli are often detected in the water of such a well, which is often polluted from the surrounding filths. The water from a reserved deep well, can be used for the purpose of drinking. But the conditions of reservation must be according to the rules laid down by the Sanitary Engineers. Otherwise the water from a deep well, if it is to be used for the purpose of drinking, must be treated with Chlorine before its use.

Tube wells.—Tube well water has become the chief source of water in many villages and towns and the successful advertisement for it has made the laity to think it is very safe in nature to be used for the purpose of drinking. A tube well has

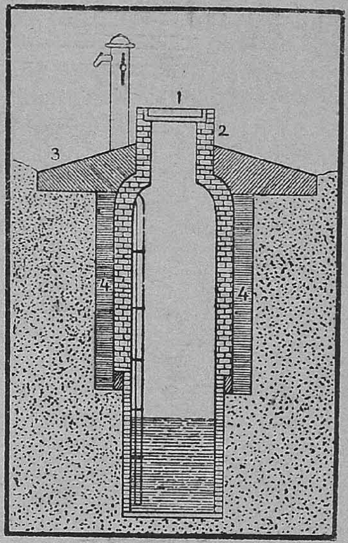
got every chance of pollution, if there be any source of filth within 100 ft. of it. Moreover the surface washing has got a chance to go down along the pipe of the well to the source of water and thereby pollute it. So the sinking of a tube well has got also a few rules to be followed. Moreover the water is very hard, it affects the skin, it interferes with washing and cooking, it may produce simple gastro-intestinal troubles. These results are sometimes not very marked in shallow tube wells, and the owner or user



Unhygienic shallow well.

extols the quality of the water of the particular tube well, but it should be remembered that the shallower the well, the lesser is the chance of getting pure water. Giving some latitude, these tube wells have become the most suitable source of good water supply in places where it is difficult to get it otherwise; the hardness of the water of a deep tube well may be softened by boiling it with some quantity of Sodium Bicarbonate.

Springs.--Rain water pouring into the soil, goes down, until it is prevented by an impervious layer of hard stone. If this layer be sloping, the outcrop somewhere reaches the surface of the earth, and the water comes out as a spring. Sometimes the water becomes heated, coming in contact with the internal temperature of the earth. This may also have some relation to volcano. The water is generally impregnated with various kinds of salts and metals and its effect on the human system also varies accordingly. The water as a rule is pure, but the substances dissol-



Hygienic deep tube-well.

ved in it, often make it very hard. Sometimes it is used more for its medicinal value than for the purpose of drinking. There are springs, the water of which can be used for the purpose of drinking.

Conclusion.– There are v a r i o u s sources of water but all are not safe and fit for the purpose of drinking. Even if it be clear, potable, and moderately hard only, it must be bacteriologically pure. Whenever there is any suspicion, it can be used after boiling; or it may be rendered pure, by the

addition of some known germicide, of which chlorination is the best. Boiled water is insipid to taste, it may be aerated easily, if a bottle of simple aerated water be added to a pitcherful of clean water. It may be also aerated simply, by pouring the water several times from one glass to another. This aeration may be also done if the boiled water from a receptacle is allowed to pass down in a fine stream, through small holes in the receptacle, to a receiver below. The quality of being clean is not the only criterion of pure water; it must be pure bacteriologically. The filtered water of a river, the water from a reserved tank or well, are the waters of choice for purposes of drinking, if it is pure from the bacterological point of view. If it is not possible to test the water bacteriologically, it is better to have it boiled before use, if one wants to drink pure water.

A point of argument may be raised that some people drink the water from a river throughout their lives, or drink the water from a tube well for a long time, and no ill effect has been experienced. The answer is, that the sunlight and oxygen playing in the water and the antibiosis factor, may keep the water of a tank or river from causing harm. The water of a tube well free from any pathogenic bacteria, does not cause very serious effect becaus of its hardness, and the human system has got great power of resistance and adaptability, yet there is a chance of ill effect and this chance is increased to its greatest point, if the water be contaminated by any pathogenic bacteria. The causes of diarrhœa, dyspepsia and constipation are often overlooked, and the impure water, the real cause, escapes detection after the incrimination.

—By T D. MUKHERJEE, M B. D.P.H.,
Burdwan, Bengal.

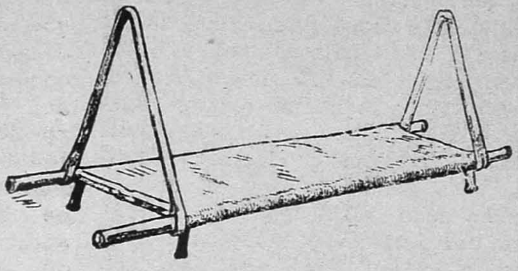
'BLITZ' FIRST AID

By DR. B. M. KOTHARY, M B ,B.S., Jodhpur.

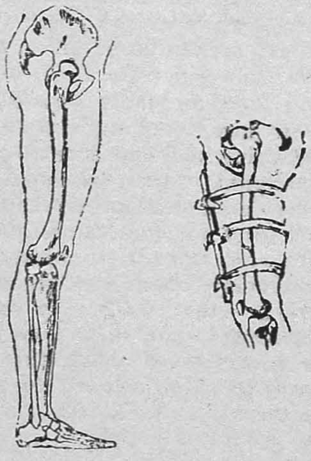
In the last issue of Health I had discussed the general principles of First Aid as applied during peace time (St. John's methods); but the practice differs under the trying conditions of air raids, when the situation is so tense and nerve-racking that a psychological and swift approach has to be made. People are shouting and crying for help–some of them only hysterical due to bombing conditions and ghastly scenes of crippled bodies and mutilated figures; buildings are toppling down making rescue work still more dangerous and difficult; public utility services have been blown out which precipitates panic and mass nervousness. Under such circumstances, the First Aider has to work under many handicaps. He has to attend during actual raids a variety of cases, most serious ones which require immediate treatment like bleeding artery, acute abdomen or asphyxia, less serious ones *e.g.*, fractured limbs or multiple wounds; and nonserious ones like old dames, who though uninjured cry out nervously. Moreover, the first aid work must necessarily be so speedily carried out that everything has been cleared up before the next raid which might come up any moment.

From these considerations, two facts stand out: firstly, the first aider should be very calm, sympathetic and swift in his action; secondly, he must use his discrimination in sorting out cases which require priority of treatment and disposal. If he can allay

nervousness of the public (including hystericals and neurotics) he will have done a big job. The injured will have recovered by then sufficiently to come forward to his help. By priority of treatment we mean a case which requires immediate treatment like a bleeding artery ; while priority of disposal demands that the case shall be sent to the hospital immediately ; for example, an acute abdomen which can only be treated by medical people under proper conditions and operative facilities. It follows, therefore, that some cases will have to be sent to the hospital urgently without much of first aid except making the patient comfortable and prevent or treat shock. Then again there may be some cases which require emergent treatment on the spot but no immediate transference to the hospital (priority of treatment but not disposal). A case of bleeding wounds can wait for disposal in its proper turn provided that the bleeding has been arrested satisfactorily in the first instance. The least wounded and 'nervy' are last to be attended where a sympathetic word and a smoke might be all that is needed.



STRETCHER



FRACTURES

Then again speed is the key-note of success in Blitz methods of treatment. You have neither time at your disposal nor sufficient material to go round for elaborate splinting and bandaging. Asphyxia and shock are of prime importance ; fractures and simple wounds can simply wait. An efficient, speedy and simple method of immobilization is to tie one limb to its corresponding part, *e. g.*, lower limbs to each other and upper limbs to the trunk, for good support. A few tight and properly applied bandages without any splints are thus good enough to support the injured limb and immobilize the fractured bone. Postural treatment of shock with adequate provision of external warmth to essential parts of the body go a long way in saving life. Proper blanketing and covering the patient on the stretcher minimises shock and adds to his comfort. Gentle handling during short and swift treatment and prevention of jars and jolts during transference and conveyance is more life-saving than efficient and elaborate treatment which might ultimately result in death due to preventable shock and unnecessary delay.

Public Health In India

By A. C. UKIL, MB., (Cal.) M.S.F.E. (Paris), F.S.M F.B., F.N I.

Continued from previous issue

Violation of the essential principles of sound public health administration.—India's lag in the utilization of science for the medical protection of her citizens through organized community effort is due chiefly to the absence of a national policy based upon defined principles. The backwardness of India in health matters does not seem to be due so much to economic causes, ignorance or lack of medical facilities as to the lack of efficient public health and medical organization based upon the investigation of the most effective and economic methods of *applying* the results of scientific knowledge to the requirements of large units of population. It is true that Great Britain spends Rs. 15 (1931) and U. S. A. spends Rs. 30 (1932) per capita on medical and public health protection, but a comparatively much better result has been obtained in improving the situation in the Dutch East Indies with a per capita expenditure of 4.8 annas and in the Philippines with a per capita expenditure of 5.25 annas, incomparison with India's 3.5 annas (1931). For example, with a staff of 2,523 vaccinators (excluding Calcutta with 66 vaccinators) in Bengal, where Jennerian Vaccination was introduced as far back as 1803 (first in Asia) deaths from small-pox during the last ten years have numbered 166,000 whereas with a staff of only 150 vaccinators in Java, which has a comparable topography and population, the total deaths, mostly from imported cases, have been limited to 9 during the same period. It is further claimed in official reports in Bengal that during the ten years 1929-1938 over 8% of the population were *successfully* vaccinated every year at a cost 1 anna 10 pies per head. The evidence depicted on the diagram (*omitted*) can only point to one thing, *viz.*, a waste of time and funds in spite of a large staff, chiefly due to defective methodology, supervision and control. Similarly, lack of co-ordination between the water-tight compartments of Irrigation, Railways and Roads and Public Health is responsible for a large percentage of India's 15 million annual deaths from man-made malaria. Take the case of nutrition again; when the health authorities detect malnutrition and deficiency diseases in a group of population, the remedy will lie with a co-ordination of efforts of the Communications, Agriculture, Animal Husbandry and Co-operative departments, but none of them has yet carried science to the door of the ryot as in Java, Philippines or Japan. In the absence of such co-ordination, the ill-health continues and remains uncorrected This is because India has not yet developed adequate knowledge of successful methodology and its community utilization and because public opinion is not properly educated, with the result that inefficient methodology has resulted in uneconomic and inefficient administration leading to waste of funds which could better be applied to other fields. Before co-ordination can be of value, the fields to be co-ordinated must have the necessary technical content to apply known knowledge for a common purpose to groups of population.

Thus it seems lack of scientific outlook and an adequate investigation by the administrative authorities in developing suitable methods of organization and the lack of a policy to include both urban and rural popu-

lations in a cognate whole as regards planning have been more responsible for her present backwardness than anything else. All scientific fields are governed by determinable laws, or else they are not scientific. It is of the utmost importance, therefore, that this country should make a general survey of the state of public health and of its health equipment, evolve a methodology of approach by carrying out sample experiments in different areas to understand the reciprocal co-ordination between the inter-related departments and its finanical implications and, based on such findings construct a coherent plan for a medico-social policy, fixing, year by year, the stage to be reached and securing the financial resources, in cash and/or kind, and trained personnel required for the purpose.

I shall cite a recent example from China (1934) when she was faced with developing methods within her economic resources. The help of the Peking Union Medical College was secured in developing the methodology of *School Health* on two economic standards. An 'A' service to demonstrate technical measures common in the West was provided entirely through cash purchase at a cost of 2.41 Chinese dollars (=Rs. 2-6-6) per school child per annum This, however, was impracticable of extension under Chinese economic conditions. Consequently, a 'B' service was developed at 64 cents (= 10as. 3p.) per school child per annum, which was economically practicable. The latter programme was developed on the basis that the essential measures should be undertaken by the voluntary effort of the teachers and pupils themselves and the cash purchase should be limited to provision of supplies and of technical supervisisn by the medical officer and the school nurse. This applied to each of the three administrative sections, *viz*,, Sanitation, Medical Service and Health Education. The practical essentials were water and sanitary toilets in Sanitation; routine appraisal measures of the individual pupil's health and prophylactic vaccinations under Medical Service, together with the correction of gross remediable defects; and the integration of healthful living and of health knowledge with actual living of the pupil in Health Education. It was shown that responsibility for the bulk of routine for the School Health Service could be placed upon the teachers and the pupils, provided two essentials were adhered to, *viz.*, participative training of the teachers at a Demonstration Centre or a Science Institute and provision of adequate supervision of the established routine by the medical officer and the nurse. Thus it was possible to undertake the bulk of the essentials of a School Health Service through local voluntary effort, instead of cash purchase which was made available for technical supervision and medical supplies. This principle can easily be applied in India in many departments of public health where a complete cash purchase is not possible at the present moment, by securing the co-operation of the inter-related sections of social services.

If Great Britain can spend 18.2% of the revenue for education and 22.7% for medical protection, India should be ashamed to spend the insignificant percentage of 8.4% and 3.4% respectively of the revenue on these heads. Agriculture and Animal Husbandry may be less important in highly industrialized Great Britain, but it is of such vital importance to the health and life of the chiefly agricultural Indian population that a paltry expenditure of 1.7% of the revenue is scandalous. Rural hygiene, at least in its peripheral units, must be treated as a co-ordinated part of Rural Reconstruction, because rural health is very intimately bound up with the other economic and social factors pertaining to the improvement of the socio-economic status. Thus the departments of industries, irrigation,

fisheries; co-operation and communications actively co-operate in other countries, with the public health programme in raising the stature of total health. It is a matter of great regret that these departments have hitherto failed to secure the necessary help and co-ordination in India. A national effort requires the pooling of all the available resources of the nation. The failure of such an effort has resulted in the neglect of proper drainage of the soil and the resultant creation of man-made malaria and in the development of communications without due regard to the requirements of marketing of agricultural produce and of the supply of medical aid to rural areas. It will thus be seen that, in national planning, any departmental planning must form an organic part of the total requirements.

In the maintenance of health, the State must provide for a social machinery to assure living standards adequate for the purpose. This refers to the improvement of economic status, nutrition, housing, physical fitness and recreation, co-ordinated with education and social assistance. Hardly any system of *social assistance* has been developed in India. Social assistance includes old age and invalidity pensions, compensation for physical injury or disease in the course of work, sickness, benefit, unemployment benefit, etc. It must be remembered that in Great Britain, the National Health Insurance Scheme, which provides for medical assistance and other benefits in cash or kind to over 15,000,000 people between the ages of 16 and 70 years, is the largest health service outside the activities of the local bodies, which assume much more inclusive public health and social protection than in India. Prevention of disease includes impersonal services like food and drugs control, water-supplies, sewage disposal, etc., and the control of communicable diseases. The necessity for medical relief comes in where the efforts of the State to maintain the health and to prevent disease have failed, As such, curative medicine should occupy a comparatively small place in the national health programme. This includes personal services, such as maternity and child welfare, school health and occupational hygiene and the institutions for the early diagnosis and preventive treatment of diseases, hospitals, convalescence homes, sanatoria and work colonies, dispensaries and peripheral health centres. Unless the Indian administration views public health from this angle, the lag cannot be made up.

Backwardness of and lack of methodology in education.— Sir George Newman (1939) has said that " National health in every country in the world, everywhere, and all the time—depends upon first the knowledge of science or art of medicine discovered, tested, verified, proved and then upon its *social* application by the medical practitioner, by the State, and by the people of that State. *Without that knowledge, there is no knowing, without that application there is no going*". The better application of this knowledge by the State and its wider usage by an educated and disciplined people is now recognized to be essential to ensure co-operation with any health scheme and to build up an efficient and health people. The lack of an aim and methodology in general education has resulted in wastage of effort and achievement of results in obtaining the necessary scientific outlook and in the intelligent participation and practice in social fields. Science is taught in a perfunctory manner in schools and the pupils seldom practise health and participate in public health activities. There is not a single official school nurse throughout India, whereas England employs 5,413. In the same ratio, India would need 38,017. How can one expect to achieve results in India, if only 8.0 per cent. of the

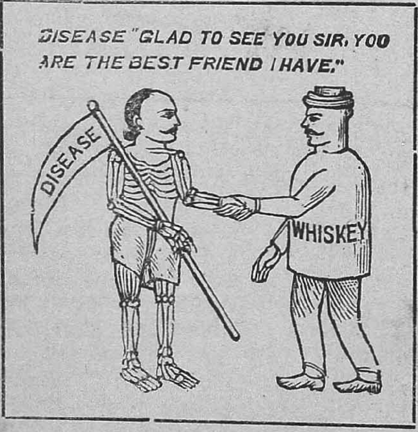
revenue, in comparison with Great Britain's 18.2 per cent. is spent for education and when teachers are not properly trained in the participation of public health work even for the school population, not to speak of the general population? A thorough overhaul of the general educational system has got to be fitted into the map of national planning.—*Cal. Med. Jl.*

(*To be continued.*)

THE EVILS OF INTEMPERANCE

BY K. BALASUBRAMANIAM, L.M.P., BHAVANI

INTEMPERANCE is a vice that ruins the body, the intellect, and the moral character. A large number of medical men entirely forbid the use of alcohol in health and in sickness, while those who consider it to be occasionally beneficial very strictly limit the quantity. But indeed we scarcely require the verdict of science to tell us the evil effects produced on health by intemperance. Those effects can be seen too often in the shaky hand and lack-lustre eye of those who indulge in habitual excess. Indisputable statistics show that alcohol shortens the lives of those who drink much and insurance companies can give policies on far better terms to total abstainers than to those who are even moderate drinkers.

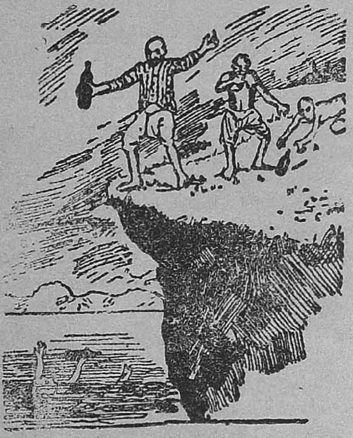


The evil effects of alcohol are not confined to the body. 'Oh! that men should put an enemy into their mouths to steal away their brains' Cassio exclaims in *Othello*. From a superficial point of view, wine would seem to do the reverse of stealing away the brains, for it often inspires the intellect with brilliant wit. This good result is but temporary. At a later stage of intoxication the drunkard, after passing through an intermediate stage of exhilaration, becomes completely stupefied and ceases to act like a reasonable being. The drunkard's brain becomes rapidly duller, his memory fails him, and in extreme cases, he is led by his favourite vice into the lunatic asylum and sometimes even to death.

Nor does the general moral character remain unimpaired by this indulgence which ruins the health and injures the intellect. Intemperance besides being a vice in itself, is the parent of other vices. Drunkards lose their self-respect and do not shrink from degrading themselves by falsehood and dishonesty. They also lose the power of controlling their passions and so commit violent acts like rape and murder which they would never have done in their sober hours. Countless examples of this can be had from the reports in the daily papers.

It is obvious that intemperance is a great barrier to success in life. What impairs the power of body and mind must of course prevent a man from doing any work well. The drunken soldier or pointsman sleeps at his post and brings destruction on those committed to his care. The drunken driver rashly dashes his vehicle, imperilling the lives of the occupants of the vehicle. No one known to be afflicted with this vice can be safely entrusted with any responsible work. The economic effects of this vice are too well-known to be restated. The instances, where the wage-earner wastes his hard-earned money in drink, allowing his family to die of starvation are quite numerous. The improvement in social conditions of the families of former addicts in districts where there is prohibition is positive proof of the good effect of temperance.

Briefly, the diseases to which this vice is a forerunner in many cases are, chronic gastritis (inflammation of the mucous membrane of the stomach) which is commonly known as dyspepsia, cirrhosis of the liver, peripheral neuritis, delirium tremens (trembling of the fingers), mania etc. Excessive indulgence in alcohol renders patients particularly liable to tuberculosis and makes them bad subjects for withstanding any severe illness.



He is led by his favourite vice—
sometimes even to death.

Let me conclude by quoting the story of a Scotsman who went to consult a doctor for his ailments. After hearing the symptoms of his illness, the physician said, "The only thing you must do is to stop smoking and cut off your liquor". "Is that all?" said the Scotsman and rose from the chair. "Oh, I beg your pardon, please pay my fee" said the doctor. "For what?" asked the Scot. "For my advice" replied the physician. "Then, I will not pay a penny" promptly answered the Scot, "because I do not intend taking your advice" and walked out of the clinic.

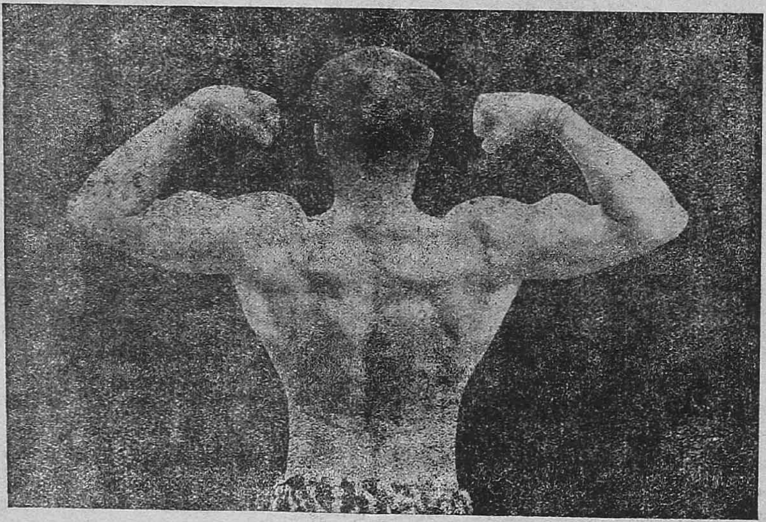
I do hope that there is no such Scot among the readers of the HEALTH.

Health Wealth and Happiness

By K. Balasubramaniam, L.M.P.
Bhavani

IT is a commonplace to contrast the blessings of health with those of wealth, and to point out that wealth without health can never bring happiness. Nevertheless, there is hardly a man who cannot point to some one who is pursuing riches at the cost of health. Wealth, no doubt, is an admirable possession, one to be desired as it gives position and power, and in combination with other blessings can add to the happiness of life; but it is only by the aid of health that the enjoyment of riches is possible. Seekers after pleasure commit the mistake of sacrificing their health in the pursuit of their desires. Young men by undue gratification of the sensual part of their nature undermine their constitution, sap their growing energy and impair their strength of body and mind and their efficiency as workers. How many there are who look back with bitter regret upon the indulgences of youth and mourn unavailingly the vigour that their own folly had driven away!

The possession of health means ability to enjoy the pleasures of life. It makes a pleasure of study for the studious, enables men to go through their daily work without undue fatigue and with a spirit that makes even drudgery tolerable. The healthy man is generally a courageous man, who can look unfalteringly upon difficulties and anxieties and meet trouble and sorrow bravely without despair.



"One of the most important factors in happiness is the possession of a robust constitution"

One of the most important factors in happiness is the possession of a robust constitution. Health is in itself a cause of happiness. No man who aims at a life of constant happiness will treat his body unfairly. It

must be his constant care. He should give it the exercise that it needs, keep it clean and rigidily refrain from the vices and excesses that undermine powers or are the causes of loathsome diseases.

Every one is familiar with the oft quoted phrase of Juvenal, *Mens sana in corpore sano*—a healthy mind in a healthy body. He has in one of his satires been indignantly describing the foolish prayers of the men around him. This one asks for health, that one for fame. another desires the death of a relative or a lucrative post. Many pray for things which would ultimately prove their ruin, if their prayers were granted. Then the poet goes on to say "you ask me, what men should pray for. If they must pray, let them ask for a sound mind in a sound body". These are surely the greatest blessings the gods can bestow upon us; without them fame, riches, and power can give little happiness. Preachers should preach the doctrine of good health, for a healthy community means a moral community. Let us resolve that we will be healthy—that we will drive from our system all vestige of disease. Let us take this into our heart, and if we think upon it seriously we shall discover that life without health is a pain instead of a joy and that ill health dwarfs our manhood and limits our possibilities.

> "O blessed health! Thou art above all gold and treasure,
> 'Tis thou who enlargest the soul and openest all its powers.
> He that hath thee hath little more to wish for, and he
> That is so wretched as to be in want of thee, has little to live for".

Healthy Hearts for the Middle Aged

BY O. P. J. FALK

Stresses and strains incidental to the wear and tear of human existence fall particularly on the heart's muscular structure. This musculature in turn is dependent on the integrity of the coronary arteries for adequate blood supply to bring it nourishment and oxygen and to carry away waste products.

As the years go along, there occurs in some people a thickening of the walls of the coronary blood vessels that supply the heart muscle. Unfortunately, this thickening occurs at the expense of interior caliber of the vessel, so that it cannot carry as much blood as formerly, although the heart may actually require *more* blood, particularly if it has become enlarged from any cause—such as the presence of high blood pressure. Then again, the ravages of time may produce roughening or irregularities in the inner lining of these arteries, from deposits of fatty substances or fibrous tissue. Such conditions as these further tax the capacity of the coronary vessels to carry sufficient blood to the heart muscle, particularly when it may be laboring under the increased demands of overweight, emotional stress, physical strain or prolonged fatiguing effort. As we pass the meridian of life we must learn to conserve our cardiac energy. In other words, we must use our heads to conserve our hearts. The following list of suggestions will help to serve this purpose and should be kept in mind in the conduct of everyday life:

1. Attempt to establish a balanced plan of living with sufficient sleep (at

least 50 hours a week) and adequate leisure periods. Recreational pursuits should be of a character not to produce shortness of breath, chest pains or undue exhaustion in those who have such tendencies, particularly after late maturity.

2. It is best to avoid stressful exercise of any type immediately following a meal. The popular rules for swimming after the ingestion of food should be observed for other forms of vigorous exercise.

3. Establish and maintain some well-balanced, moderate exercise program suited to middle age needs. Regular walking, riding, golfing, skating or badminton constitute practical and suitable types of exercise. It is interesting to speculate on just what influence the replacement of man's habit of walking by increasing use of the motor car may be having on the increase in middle age heart disease we are witnessing today.

4. Learn to do things in a leisurely fashion. Train yourself to act with studied tranquillity, to go places with less feeling of hurry and push. The few minutes saved by fast driving are probably unimportant in the long run. People who accomplish most are not in a hurry.

5. Try to cultivate the art of complete muscular relaxation. To do this one need take only a few minutes several times a day. It is an art that must be practised, much as one learns to play the piano. A little thought given to relieving the muscles of the arms, legs and throat, and relaxing the tension of the tongue on the palate or teeth, will go a long way toward insuring the complete muscular relaxation so effective in preventing fatigue in general and conserving cardiac strength as a consequence.

6. Avoid unnecessary effort which sacrifices the hours of rest and recreation every middle aged person needs in order to conserve cardiac strength for the long pull over the years ahead.

7. A balanced dietary program is important, but special emphasis should be placed on moderation in the size of meals and on a quiet and unhurried manner of eating. The inordinate consumption of caffein drinks is not favourable, nor is the immoderate use of alcohol or tobacco conducive to optimum cardiac integrity. There is evidence that fat, concentrated starches and sweets are undesirable, particularly in the presence of overweight.

In general, it is well for a person past middle life to cut down on fats, particularly cooked greases and fat meats. Even butter and cream should be taken in moderation—2 or 3 pats of butter and 1 or 2 tablespoons of cream are sufficient to fulfil the average daily requirement of those in late maturity who tend to be overweight.

Eating 2 or 3 fresh vegetables a day (including a leafy one), a portion of fruit, a moderate amount of lean meat, an egg, and 2 glasses of milk or a portion of cheese is essential in order to maintain a well-balanced dietary program that will insure adequate vitamin and mineral intake.

8. The prevention of heart disease is based on sound principles of well-balanced living, with emphasis on moderation, equanimity and conservation of energy through the middle and later decades of life. The adoption of a more tranquil and protective philosophy is important, particularly to those with a family history of heart disease. This entails making every effort and sacrifice necessary to get along with one's family and associates with broad tolerance and maximum understanding. In other words, we must take the path through life in our stride and realize that more can be accomplished in the long run by a quiet and well ordered plan than by the high pressure method so typical of America today. Let us "emote" less and think more. *We must use our heads to conserve our hearts!—Hygeia.*

LIVING WITH THE WEATHER

By F. M. POTTENGER, M.D., F.A.C.P.
Monrovia, California

HUNTINGTON stressed the effects of temperature and humidity on health. He made a study of the daily work of 3000—4000 mill operatives in New England, and the Southern States, also of 1700 students at Annapolis and West Point. He found that the daily variation of temperature in which the mean maximum was about 64°F and the mean minimum was about 38°F was the most favorable for productive effort. He found that neither too great changes nor monotony were favorable for best physical or mental accomplishment, but that moderate variability added to climatic efficiency.

Climates may be roughly divided into three classes :—

(1) A climate in which the diurnal variation in temperature for most of the year falls within 38°F and 64°F. This is the climate which favors productive effort throughout the year.

(2) Rigorous climate is one in which both daily and seasonal variations show wide swings calling upon the individual to make enormous daily and seasonal compensation.

(3) Tropical climate is a monotonous climate where the temperatures, both daily and seasonal, fall outside and above the optimal limits.

Under conditions of optimal temperature man is able to accomplish most, and is best able to maintain health. The rigorous climate makes extraordinary demands upon man's adaptive mechanism, and may precipitate disease in those with low resistance. On the other hand, it stimulates the strong to withstand unusual effort and raises their resistance to disease. Those who live in monotonous non-stimulating climates do not suffer from diseases which are produced by stress, such as hypertension, hyperthyroidism and diabetes, to the same extent as those who live in more rigorous climates.

That the prevailing diseases from which people suffer in these various climates would differ is to be expected. So is it reasonable that the same disease might affect people of these varying climates differently.

It is well known that the people of the tropics do not show the same resistance to tuberculosis that is shown by those who live in the temperate zone.

Appendicitis is more common in the more stormy portions of the United States than in the warmer, milder portions, but the mortality is greater in latter probably because of the lack of the invigorating meteorologic forces which increase the patient's ability to withstand.

The rigors of the North increase the incidence of such metabolic disorder as thyroid disease, diabetes and pernicious anemia.

Storms.—All atmospheric forces are more turbulent at time of storms, and physiologic mechanisms are called upon to make greater compensation. During storms the barometric pressure changes, temperature and humidity are altered, air currents vary, and electric potential shifts. All these changes produce effects on man which require great adjustment and adaptation.

How Atmospheric Forces Produce Effects.—The atmospheric forces produce their effects through all of the physiologic mechanisms of the body, nerves, hormones and body electrolytes. They act primarily upon the skin with its rich supply of sensory nerves. These transfer the stimuli centralward where they are transferred to motor mechanisms, usually of the vegetative system to be distributed to the various parts of the body for action. Some of these forces, too, produce psychic effects which may result in either normal or pathologic stimulation of the physiologic mechanisms. The fact that the stimuli act upon all of the physiologic mechanisms is illustrated by the effects of heat stroke in which the loss of sodium, the deficiency of the adrenals, and reduced sympathetic stimulation each makes up a part of the picture.

Meteorologic forces may bring about general physiologic response or a response limited to some particular organ. The latter may be the case when the organ is the seat of disease which prevents full and free physiologic adaptation.

Meteorologic forces produce effects similar to those caused by other stimuli which produce general physiologic effects. This may be illustrated by pulmonary and pleural pain. Patients who have had pulmonary tuberculosis with involvement of the pleura may, long after the disease ceases to be active, suffer from pains in those sensory nerves which were reflexly influenced at the time of the acuteness of the process. Such pain is frequently brought on at the time of storms. However, it may come with other forces which act widely upon the physiologic mechanism such as emotional stress, infections, tiring, and menstruation. The same is true of other types of visceral pain. It has been recognised that the arthritic is sensitive to weather change.

Mild meteorologic effects produce normal body activity and aid in restoring health when damaged.

Ill effects may be shown in observing the clinical course of a disease such as tuberculosis. Hemoptysis, pain, insomnia, pleural effusion, metastatic spread, and exacerbations appear seasonably; and also appear in multiples at the same season, being precipitated by storms. The season which shows most exacerbations and most spread of the disease is the late winter and early spring, after the patient has been long subjected to the stresses of winter weather. A period of lesser severity is shown in the fall at the approach of winter.

There is five or six times as much acute miliary tuberculosis in the spring as there is in mid summer. The same is true of tuberculous meningitis among children.

In observing many patients over the past 35 years, it has been noted that exacerbations of the tuberculosis and complicating lesions, such as pleurisy and hemoptysis, are atmospherically conditioned and are especially connected with storms.

Russian physicians have found that 2 or 3 days before the approach of a violent Arctic winter storm the contractions of the heart decrease, sometimes to about half the normal number per minute, and that the output per contraction increases in proportion. Moreover, this occurs 2 or 3 days before any meteorologic instruments register any warning of approaching change.

Body chemistry, endocrine function and the sensitivity of the components of the vegetative system all show seasonal adaptations. In the winter the tissues are more active, cells more permeable, and potassium is more prominent than calcium. In the summer the reverse is true. It readily can be understood that there should be a difference in the incidence of those diseases which are seasonally conditioned.

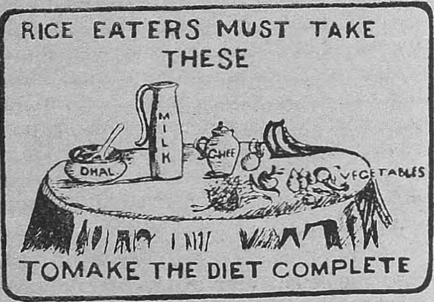
Man lives happily, he becomes ill, and recovers or dies with the weather.
—*The Medical Review of Reviews.*

MINERALS in NUTRITION

By SHAH

INDIA is a vast country and the diet varies from province to province and also varies with the customs, religious notions and economic level of the people. We can, however, take it that there is an all round deficiency of calcium in our country.

Dietetic surveys are open to a certain amount of errors because it is not always possible to make correct allowances for the portions of foodstuffs not actually eaten. Basu, Basak and De studied the adequacy of some typical Indian diets with regard to protein, calcium and phosphorus by direct metabolic experiments on a number of individuals who were under a strict regime and consumed their diets *in toto*. They found that the maintenance calcium requirement per man value



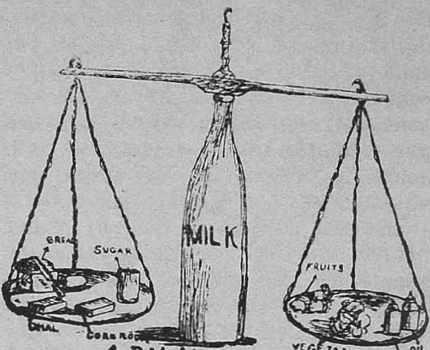
is 0.42 gm. Adding a 50 per cent. allowance, it is found that 0.648 gm. calcium per day is the requirement for an adult for maintaining health and activity. The diets investigated were of three kinds: (1) rice vegetarian, (2) rice-fish and (3) vegetarian atta diet. The calcium content of the rice diet was 0.2 gm. of the rice fish diet .236 gm. and of the wheat diet 0.3 gm. All the dietaries failed to meet even the bare maintenance requirement. The authors concluded "One of the greatest defects of typical Indian dietaries is insufficiency of calcium." They also studied the effects adding 10 oz. of milk to the diets. This covered the maintenance requirements of calcium but did not always provide a 50 per cent. margin of safety. Even if we adopt the non-confirmist view of I. Harris that the minimum is the optimum for adults, these experiments conclusively prove that our diets need to be supplemented by milk. We can take it that 10 oz. of milk is the minimum that you and I should take. But the question of growing children, pregnant women and lactating mothers is quite different. Even I. Harris cannot maintain that they are better off with a bare maintenance allowance and do not need to retain calcium. If we accept the figure of 1 gm. for growing children, 1.5 gm. for pregnant women and 2 gm. for lactating women, we can at once see that *milk is the only article of our diet whcih can meet these needs.* Assuming that one third gram of the calcium is derived from other articles of food, a child must take at least 12 oz. of milk, a pregnant woman at least a pint and a lactating woman at least about 28 oz. of buffalo milk. We must remember that lactation is a great drain upon the mother as far as her calcium stores are concerned, and Macy and her associates found negative calcium balances in lactating women in spite of an intake of 3 gm. of calcium. Garry and Stiven suggest that the normal requirement should be supplemented by additions of at least four times the calcium secreted in milk and sufficient vitamin D to prevent losses during lactation. The calcium intake preferably as milk should amount to

approximately 2 gm. of calcium per day or more. *On this reckoning something like 35 oz. of milk are required by nursing mothers.*

But what is the state of affairs in our country with regard to milk? According to one report the average *per capita* consumption of milk is only 3 oz.! and authorities agree that this deplorable condition cannot be improved in a short time. What then are we to do? Are there other foods which can replace milk in our diet? Unfortunately not, because the calcium of milk is not only wholly available but is also best retained. Some leafy vegetables are no doubt rich in calcium but the calcium is not available to any appreciable extent. Rau and Murthy analysed a number of greens for their calcium content. It was found that amaranthus gangeticus contains 0.25 gm. of calcium but only 10 to 15% of this is available. I might mention here, as a matter of interest that *cumin omum and gingelly seeds* are very rich in calcium, and the custom of eating 'Talpapdi,' a preparatinn of these seeds with jaggery, is a laudable one. This preparation is rich not only in calcium but in iron also.

A cheap substitute for milk is *skimmed milk* or skim-milk powder. Aykroyd and Krishnan studied the effect of giving8 oz. of skimmed milk to school children. While the control group did not increase in weight, the experimental group gained 1.35 lb. In institutions like orphanages and hostels where cost is of prime importance, skimmed milk could be given in place of whole milk with beneficial effects. Where even this is not possible, a calcium preparation like calcium lactate could also be given with advantage. These very investigators also studied the effect of giving 1 gm. of calcium lactate to school children and found that these children "showed significantly greater height and weight increments than children not receiving calcium." It would be wise and judicious to prescribe some preparation of calcium for every pregnant and lactating woman.

There is one food at least which is not only rich in calcium but its calcium is largely available. This is a cereal called *ragi* which grows in South India and is the staple food of South Indian villagers. This cereal



A BALANCED DIET

in not popular with the middle and rich classes and so far as I can judge there is no scientific reason but mere prejudice at the back of this unpopularity. Giri has shown that *ragi is the best source of calcium and phosphorus among cereals.* Not only is it rich in these minerals but their percentage retention is high, and the calcium-phosphorus ratio in ragi is of the same order as that in milk *i.e.* 1.3 to 1 and is therefore favourable for optimal growth. Raghavachari and others while investigating the diets of several villages in connection with with endemic fluorosis observed that the calcium intake in all villages and hamlets was, with one solitary exception, above 1 gm. even higher than the optimum of Sherman. If South Indians take to ragi the question of calcium deficiency of the rice diet can be solved easily. I might also mention here that the protein of ragi has a high biological value.

We will now consider the *problem of iron.* W. H. Sebrel believes that one of the most prevalent deficiencies in America is iron deficiency. In an

investigation of the poorest classes of the population in Aberdeen and the North-East of Scotland, Davidson, Fullerton and Campbell found that the total daily iron intake was about 10 mg. per person and an intake of only 5 to 6 mg. was not uncommon finding. Thirty-five hundred individuals of both sexes and at all ages were studied. On the basis of their reasonable standards anemia was found in 41 per cent. of infants under 2 years, 32 per cent. of pre-school children, 16 per cent. of adolescent women and 45 per cent of adult women. It was generally absent in adolescent and adult males.

In India, Nature is lavish in her bounty and we get plenty of leafy vegetables. Even the poor villager can have a small kitchen garden wherein he can grow these vegetables at little expense. Diet surveys show that as a rule the Indian diet supplies enough iron. Aykroyd's subjects got an average of 25 mg. of iron. The patient families in the survey of Niyogi and Sukthankar derived 30 mg. of iron ; the inhabitants of Dinajpore had 24.43 mg., of Barasat 27 mg. and of Calcutta 28.39 mg. In Assam Mitra found 18.77 mg. and 27.79 mg. for Labac and Jorehaut. These figures no doubt indicate a better state of affairs than what McCance and Widdowsen found in their subjects. They found an iron intake of 11.4 mg. in 63 women examined by them in 1935. A similar group has been again surveyed by Miss Widdowson in 1941 who found an iron intake of 12.2 mg.

But we must remember that geographical situation plays a large part in the food supply of people. One does not need much imagination to realise that a villager of Surat District would have iron enough and to spare in his diet, while in Cutch and Kathiawar the conditions would be quite different. Again there are certain seasons in the year when leafy vegetables can be had in plenty. If a diet survey be conducted during this part of the year, the iron intake would naturally be high. Raghavachari and others record an iron intake ranging from 42.9 mg. to 68.2 mg. in eight hamlets surveyed by them. But these poor people consume leafy vegetables "for only two to three months in the year."—*Med. Bul.*

The Food Value of the Potato

[The following note has been prepared by the Ministry of Food and approved by the Ministry of Health as bearing on the medical aspects of nutritional policy.]

The components for which potatoes are nutritionally notable are iron, vitamin C and the vitamins of the B-complex. One pound of potatoes provides 330 calories equivalent to 5 ozs of national bread or 11 per cent. of the day's requirement for a moderately active man ; 3 mg. of iron, 25 per cent. of the day's requirement and equivalent to that of 2 eggs ; 100 I.U. of vitamin B_1, 20 per cent. of the requirement and equivalent to that 5 ozs of bread. One pound of freshly-lifted potatoes contains 135 mg. of vitamin C which is almost twice the day's needs ; the average C content potatoes makes a pound equivalent to 3 ozs of orange juice.

Potatoes are rich in factors of the vitamin B-complex ; 1 lb. is equivalent to ⅓rd pint of milk or 11 per cent. of the day's needs of riboflavin ; to 4 ozs. of meat or 36 per cent of the requirement of niacin or nicotinic acid. A pound of potatoes also probably contains as much vitamin B_6 and folic acid as 1 lb. of national bread, and as much pantothenic acid as 1 pint of milk. The table below shows in detail the average composition of potatoes ·

Moisture 78 per cent. ; Protein 1·2 per cent. ; Carbohydrates 16·2 per cent.

Calories ..	70	per 100g
Calcium ...	8 mg.	,,
Iron .	0·7 mg.	,,
Vitamin B_1 ..	40 I.U.	,,
Vitamin C ..	9 mg	,,
Freshly lifted ...	30 mg.	,,
Before Xmas ...	12 mg.	,,

Vitamin C			
After Xmas ..	6 mg.	per 100 g.	
Riboflavin ...	0·07 mg	,,	
Nicotinic Acid .	1 4 mg	,,	
Vitamin B_6 ..	0·15 mg.	,,	tentative values
Pantothenic acid .	0 3 mg.	,,	
Folic acid . .	0·12 mg.	,,	

—*Medical Officer.*

Enuresis (WETTING THE BED) in Children

By John H. Walls, M.D.

All cases of enuresis cannot be explained on the same basis. Some are undoubtedly due to local causes in the genito-urinary system, but those are in minority. Phimosis, (tightness of the foreskin) urethritis, worms, urinary troubles can all set up a stimulus to void urine in sleep. If these are left too long their correction may not abolish the enuresis, as the condition may become a habit. Brushing aside the physical causes I think enuresis in children can be explained on one or other of the following lines.

1. In the normal child somatic expression of fear or anxiety : Witness the boy in the junior schoolroom : through fear of punishment he may be, even in full consciousness, unable to maintain control of his vegetative nervous system and wets the floor beneath him. In sleep, with its attendant youthful dreams, the school child will readily re-live the day that is past, or fasion one for the following day. Hence he is likely to wet the bed, have a dirturbed sleep, or may even exhibit night starts. Apart from the schoolroom, I am afraid the mythical "horde father" is still to be found in many a home ! Through wrong up-bringing and the inculcation of fear into his children, such a father might easily produce fears in them. In the tender nervous system of a child these are not forgotten and may be outwardly expressed as enuresis.

2. All children upto a certain age are enuritics. In some cases it may remain longer than normal by reason of faulty education and rearing in the home. I wonder if the aboriginal races are normally enuritic.

3. *Endocrinal.* Probably a number of bed-wetters have the origin of the abnormality in the endocrine system. Biological processes are less stable in children than in adults, and the endocrinal system calls forth a delicate interplay. Any unusual stress may upset this through the supra-renal or pituitary body.

4. I agree with Dr. I. Gordon that allergy in certain cases of enuresis is only a *manifestation* of a constitutional psychopathic trait. Bed-wetters are often highly strung, apprehensive, and live every hour of the day. It would seem as if they have an inborn, latent neuro-vegetative instability which can become dynamic by psychological stimuli ignored in the normal child. Even the most careful nurturing of these children will not always prevent expressions of this instability, shown by enuresis, stammering, tics, etc.

Successful treatment of enuresis working on the above ætiological lines would resolve itself into a thorough understanding of the child's personality, the abolition of fear, securing co-operation of the patient, the abolition of the "horde" father outlook, and the general better educational guidance. If many enuritics were regarded as "problem children" and treated along proper psychological lines I believe we could effectively eradicate the condition in a large number of cases.— *British Medical Journal May, 1942.*

Topics from Medical and Health Periodicals

"—the Only Creature"

"I HAVE walked in summer meadows, when the sunbeams flashed and broke.

But I never saw the cattle nor the sheep nor horses smoke.

I have watched the world with wonder, when the grass with dew was wet.

But I never saw a robin puffing at a cigarette.

I have looked in many a river, when the harvest crop was ripe,

But, I never saw a salmon puffing at a pipe.

Man's the only living creature that parades this vale of tears.

Like a snorting traction engine, puffing smoke from nose and ears.

If God had intended, when He first invented man,

That he'd smoke, He would have built him on a widely different plan.

He'd have fixed him with a chimney and a damper and a grate

And he'd have a smoke consumer that was strictly up to date —*Good Health.*

■

Dehydrated Foods in Britain

THE demand for dried food, principally arising from a shortage of shipping space has led the Ministry of Food in Britain to encourage dehydration of raw meat, vegetables and other food stuffs on a large scale. The extent of the demand is clearly exemplified in the fact that recently some 20,000 tons of hydrated butter have been ordered by the British Government from New Zealand. A large dehydration plant for drying and packing vegetables has been installed in London to meet this growing demand of dried foods.

Various dehydration methods are now in operation. The method followed by H. J. Heinz & Co., Ltd , in co-operation with the Ministry of Food, is capable of turning out 9 tons of dried potatoes from 80 tons of the same every week without any loss of nutritious value. The process consists in peeling off the skin of the potatoes with a machine lined with carborundum. The eyes are then extracted and the stuff cut into strips before they are subjected to boiling. The necessity of boiling is to inhibit the action of the enzymes and ensure good preservation. Drying is secured either by passing hot air over trays of potato strips, or by allowing the stuff to travel on a moving belt with hot air blowing through it, when the strips come out in the form of crisps and flakes. The temperature should be between 65°C to 88°C. The tins in which dried foods are to be packed should preferably contain nitrogen instead of air as they keep better in the atmosphere of inert nitroxen—*Science & Culture.—I. M. J.*

To My Doctor

Poem for Dr T R Staton by Michael Welles May. age 9 days

Here's to the man who brought me out,
Then spanked my fanny and made me shout.
He cut my cord, which he had tied;
And all the time I cried and cried.
Later, and with great precision
He performed on me a circumcision.
But since these things all had to be
I'm mighty glad that it was he
Who did them with such gentle touch
It really didn't hurt me much.
I think he's grand ! I like him lots !
He's mighty good to little tots !
So this is in appreciation
Of his assistance at my creation !

—*Journal of the American Medical Association, Aug 30, '41*

■

Milk from Virgin Goats

UNDER the caption "Milk from Virgins" the July issue of *Monthly Science News* publishes a note how Dr. S. J. Folley and his colleagues at the National Institute for Research in Dairying at Shinfield have recently succeeded in making virgin goats produce milk and demonstrate the superfluity of the usual process of mating. This somewhat peculiar result is reported to have been achieved by treating virgin animal with diethylstilbœstrol and hexœstrol—synthetic alternatives to sex hormones, first prepared by Prof. E.C. Dodds. The basis of such treatment is the knowledge gained recently through researches that hormones from two glands, the ovaries and the anterior pituitary glands, are mainly responsible for the development of the mammary glands of the animals and the production of milk It has been found that the hormones from the latter gland are indispensable for starting and maintaining the flow of milk. A definite knowledge as to whether sex hormones act directly on the mammary glands, or simply stimulate the anterior pituitary glands, to generate other hormones which are directly responsible for the development of udders is, however, yet lacking. Dr. Folly has further observed that the quality of milk from cows depends on the strength of the doses of sex hormones or the synthetic preparations administered. Strong doses may even altogether stop the production of milk Weak doses, on the other hand, have been found to increase the proportion of fats and other solid matter in milk which demonstrates that a proper selection of strength can improve the quality of milk. Further research in this direction is in progress, and these new results are destined to be of considerable economic importance.—*Science & Culture.—I. M. J.*

Puerto Rico obtains Perfume from Coffee

FLOWERS of the coffee plant yield an oil with a perfume which can be substituted for jasmin, cassia and mimosa, reports the U. S. Puerto Rico Agricultural Experiment Station.

The prospect of finding a permanent use for this new perfumery ingredient is the more attractive because picking the blossoms strengthens the trees and produces a finer coffee. Methods of extraction and blending are being studied.

The coffee flower is described as having an agreeable perfume with a faint jasmin note, a hint of mimosa and a faint suggestinn of the aroma of coffee.—*International Expert Chemist, Oct. '42.*

■

Apple a Day May Keep Dentist Away—New Version

"AN apple a day may keep the dentist away" seems to be the new verison of the old slogan about the health values of apples. A fairly firm, chewy apple, taken in generous bites that require considerable chewing, is more efficient than your tooth brush in cleansing your entire mouth, Dr. Holmes T. Knighton, of the University of Louisville, Ky., told the Amercian Dental Association.—*Doctor, Jan, 42*

■

The Bed Bug

THE question most frequently asked of the entomologist by the medical officer of health is: "How long must bug-infested premises be left unoccupied before the insects will all die out?" Dr. Johnson does not answer this question specifically, but his data allow us to form an estimate. Under the most favourable conditions no bug survived longer than 533 days, and it is doubtful whether, during the later part of its life, it could have either fed or reproduced. It is unlikely under conditions obtaining in an English house that bugs would survive for longer than one year, and it would be safe to assume that in eighteen months a house would be completely free from infestation. When the weather is cool, however, fertilized bugs regularly survive starvation for six months and starts laying fertile eggs as soon as the temperature rises. Bugs normally starve during the winter, but in summer, when they are active, they are much less able to survive without food. The possibility that, in the absence of man, the parasites might maintain themselves on rodents or birds infesting the house cannot be ignored, but the behaviour of the insects is such that it seems unlikely that a population could be kept alive for long in this manner When bugs appear in numbers in a house which has been unoccupied for sometime, it is usually not because they have survived but because they are migrating from adjoining inhabited premises There are still many questions to be solved before the bed bug can be completely eradicated.—*British Medical Journal, May, 1942.*

American Hospital Built to Withstand Air Raids

THE new *Churchill Hospital* is to be opened at Oxford. It will be administered by a group of American surgeons, who arrived in England on the first day of the air raids on London. The hospital was built in 1941 and therefore is the first to be built with the horrors of modern warfare in mind It is so designed that a bomb could do no great damage to the hospital as a whole. The wards are built round a courtyard, each ward having its open air raid shelter Six hundred patients can be accommodated. The staff comprises twelve American doctors and fifty American and Canadian Nurses. Its main function will be reconstruction, of which the two branches will be orthopedic and plastic.

A medical service and other types of surgery will be provided as necessity arises. After the war it is intended, if possible, to keep the hospital as a permanent American hospital in relation with the Oxford Medical School. It is hoped that a similar British Organization may be initiated in relation with a University in the United States.—*The Journal of the American Medical Association April 11, 1942.*

■

Baldness

BALDNESS is usually a senile change, it may occur quite early in life, or may be congenital and the congenital types may be met with in several members of the same family. The tendency to baldness of the hereditary. Any general disease or fever interfering with nutrition may produce baldness. A number of interesting factors have been put forward as likely to pre-dispose to baldness such as (1) the shape of the skull i e., a wide skull the sides being so prominent that the temporal arteries are easily compressed by the hat, (2) venous stagnation owing to the same cause (3) profuse perspiration with subsequent decomposition and afterwards invasion by bacteria leading to atrophy of the hair, (4) chronic seborrhœa of the scalp. There may be a combination of one of more of other factors. The presence of dandruff is an important factor, whilst the wearing of hard unventilated hat has been blamed.

If the baldness has followed an illness or some specific disease the hair will generally grow again as the patient recovers his general health. Hair lost through natural decay in elderly people cannot be restored, but in younger people the development of commencing baldness may some times be checked and the growth of new hair promoted by local treatment directed to the prevention of dryness, the cur of seborrhœa and the improvement of nutrition of the hair roots. The nutrition of the hair bulbs may be improved by stimulating lotions which redden the scalp and bring a larger amount of blood to the affected parts.

Patchy baldness is a disease of the scalp in which the hairs over a circumscribed and approximately circular area are rapidly shed. The bald patch sleeves left is white and

polished and its surface is depressed as the result of atrophy. At the margin of the patch short atrophied hairs are formed which come out easily. It extends gradually and other patches always recovers after a shorter or longer period, except in the severer forms. Several successive crops of downy hair may grow and wither away again before the patches are definitely covered over. Hence after complete restoration, relapse is not at all uncommon. In later case, the baldness is usually permanent, but it is difficult to give a defenite prognosis on this point as complete restoration of the hairs has been enough to take place after as long as ten years. Prognosis is bad after the age of 45. The condition is more common in males than in females. It is more common in young persons and is rare after 40—the commonest age of incidence is between 10 and 20. It is probable some forms of disease are due to micro-organisms, others are of nervous origin. It also often seen as to be directly connected with prolonged mental distress or worry.—(*Austin Furniss, The Prescriber, November, 1942.*)

Marriage and Diabetes

CERTAINLY there is a strong hereditary factor in the development of diabetes mellitus This has received much discussion in books written on the subject of the diabetes such as those by Joslin and Wilder It is known that diabetes is much more frequent among members of certain races, such as Hindus and Jews: this is due presumably to generations of intermarriage In probably about 25 per cent of cases in which diabetes mellitus develops a family history of the disease is obtained. The occurence of diabetes mellitus in twins has been discussed by Pinkus and White. They found that both twins contract diabetes in 70 per cent of sixteen series of similar twins as compared with only 10 per cent of a series of dissimilar twins. It has been proved that diabetes constitutes a recessive character according to the mendelian pattern. This means that if diabetes were to be eliminated by eugenics not only diabetic patients but all relatives of diabetic patients would have to be sterilized or prevented from marrying. Joslin estimated that it would be necessary to sterlize or prevent the marriage of one citizen out of every four in the United States.

Since the woman in question has a family history of diabetes and since her fiance has the disease now, there is an excellent chance that one or more of their children or their grand children would have tho disease. Although it is true that the fiance will have to live a disciplined life as far as diet and insulin are concerned, it cannot be categorically asserted that "he will have a predisposition toward infections, occupational accidents, reduced longevity or low sexual potency." The probabilities are that he will lead an entirely normal life and have a nearly normal life expectancy.

In conclusion, if this man and woman decide to marry anyway, it will be up to them to decide whether they care to perpetuate the disease in their decendants —*J.A M.A Oct.'41.*

Cross-Eyed Children

CROSS-eye often may be cured if the condition is recognized early and the proper treatment prescribed. The advice of a trained ophthalmologist should be considered and followed. The cooperation of parents and the general physician is needed and the confidence and enthusiam of the affected child should be developed. If the child is within the scool age, he should have the cooperation of the teacher; but above all there must be a willingness on the part of the child and of his guardians to co-operate completely if anything is to be accomplished.—Brittain Ford Payne, *Arch, Pediat,* June, 1941.—Orr, Buffalo.

Tuberculosis

AN increase in the number of beds for tuberculosis patients in 1912 has been instrumental in the decrease in the number of deaths. statistics compiled by the National Tuberculosis Association reveal. A total of 97,726 beds are available throughout the United States and tuberculosis deaths for 1940 the latest year for which final figures are available, are 60,428. In 1938, the last year that a survey of facilities was made. there were 89,692 beds and 63,735 deaths According to the Association, a standing of two or more beds per annual death should be maintained in order to satisfactorily carry on proper control of the disease This standard has been met in only one-third of the states.

The source of the great bulk of infections with tuberculosis is a human carrier with a pulmonary cavity. While the home is probably the place of most childhood and some adult contacts, many primary infections and more reinfections must occur in the place of work. Nurses, physicians and attendants on the sick encounter a real occuptaional hazard from infection itself and this hazard should be accpted as incidental to the professional life while hospital managment should assume the obligation of minimizing opportunities for mass infection. *Sarance Lake Symposium on Tuberculosis in Industry,* Saranac Lake, June, 1941

All evidence indicates that tubercle bacilli live a very short time in rooms well supplied with unfiltered daylight In the dosages in which they are apt to be spread by trained patients of a well-run instituation, they probably do not survive in infectious quantities more than a few hours In absolute darkness they may live several months C. Richard Smith, *Amer, Rev. of Tuber.,* March, 1942.

To find anything one should look for it. Every case of tuberculosis found and put under treatment stops short of a possible source of spread of this disease whose ramifications are more widespread than a chain-letter Every case of tuberculosis found in the early stage gives that person a much greater chance for recovery than if it is a late stage of the disease J. L Gompertz, M.D, *Bull. Alameda Co. Tuber and Health Assn,* March, 1942.—*N. W. Medicine. Sep. 42.*

Morale

1. Mental casualties result not so much from the threat of bodily harm as from disruption of the normal living processes.
2. The best antidote to panic is to engage the energies of people in communal and gregarious activites
3. Those who express their anxieties in motor reactions can find release in activities of a social character.
4. Children tend to reflect the anxieties of their parents The awareness of this by the parents will help them better to protect their children.
5. To children under 6 years of age the home is the centre of their emotional life, while, to children under 11, school is the emotional pivot.
6. Food and warmth are all important in sustaining morale.—*J.A. M.A. 14-3-42.*

Mental Power and Age

"AN unfortunate libel" was the term Dr. Irving Lorge, of Teachers College, Columbia University, applied to the popular idea that aged persons decline in mental ability with advancing years

Speaking before the meeting of the American Association for the Advancement of Science, Dr Lorge said that the deterioration observed by psychologists and laymen is more apparent than real It is due to a combination of dimming sight, slowing movements, dulled hearing, and a pre-occupation with life's pro blems cumulatively. It is not a loss of mental power as such, but rather an inability to work as fast with mental tasks, Dr. Lorge said.

Tests given to 143 unemployed adults aged from 20 to 70 years indicated that the apparent decline with age differs when different mental test are used as the measuring stick, those tests involving speed showing the greatest decline —*Science News-Letter.*

The Psychology of Deafness in Children

DEFECTIVE hearing impose mental strain, isolation and loneliness on the deaf and hard-of-hearing child and arrests his intellectual development His continual struggle to make himself understood may result in a marked inferiority complex Many of the psychologic reactions to deafness may be helped. The prevention of those disease which produce deafness is most important —George L. Drennan. *Illinois M. J* , March 1941.—Barbour, Peoria, Ill

Not So Foolish

ONE of the examining psychiatrists at the veterans' hospital in Dwight attempted to plumb the sanity of a new inmate with "What would you do if you saw a battleship coming down this corridor?" "Get out my submarine and sink it," the inmate retored quickly. "Ah," the psychiatrist said in triumphant cunning, ' but where would you get your submarine?" "The same place you got the battleship," came the patient reply.—*G. P. June, 42*

Mutual Co-operation

Ground Access

GROUND access from streets, lanes, and through walls of contiguous property is of great value in enabling the firemen to get to the fire from any angle that may be necessary Ordinarily, gates are weak points but in case of fire they represent points of great value.

High walls, especially walls protected by broken glass, are obstacles—though not insurmountable.

In the case of vehicles in a garage or compound, mobility is restricted and here it is an advantage to have as many exits as possible in addition to adopting the practice of parking them in the ready position to leave in case of fire.

Roofs

ROOFS are important If made of inflammable material, they constitute a fire risk.

A roof higher than the surroudding property is an advantage to roof watchers, looking for the fall of incendiaries, thereby enabling them to warn the residents of the neighbourhood. Some roofs offer an advantage in providing access to others.

Telephone

THE telephone is the first means of communications and all the telephones in the neighbourhood should be listed and permission obtained for any of the neighbouring organizations and residences to use the same.

A 24-hour service manned by efficient telephonists is most valuable, especially when the telephone room is given lateral and overhead protection

If there are telephones connected to different exchanges so much the better in case anything happens to one of the exchanges.

Medical Service

IT is important to know the positon of doctors, first aiders, stretchers, etc. within the neighbourhood, so that no time will be lost in getting them when it is necessary.

Protection of Personnel

OWING to the construction of a building or its appurtenances, it may be possible to provide protection for a greater number of persons then are employed, *e.g.* basements. running pits such as are used in garages, railway and tramways tunnels, etc, caves in hills, underground workings.

If such is the case it would be in the interests of the community for such protection to be shared on the following basis —(*a*) Neighbouring public do so at their own risk and free will, (*b*) Accommodation to be used properly and decently, (*c*) Costs of rendering additional accommodation available to be borne by the proper authorities —*Safety News*